INDEX

Astrophysics:	PAGE
The free-free transitions of the negative hydrogen ion in the exchange approximation,	
T. L. John	93
McDowell	287 431
Beer, A., Photoelectric distances of 461 Northern OB-stars and galactic structure from Hy-	
luminosities Beggs, D. W., D. E. Blackwell, D. W. Dewhirst and R. D. Wolstencroft, Further observations of the zodiacal light from a high altitude station and investigation of the interplanetary	261
plasma, III. Photoelectric measurements of polarization	419
and central depths Blackwell, D. E., D. W. Beggs, D. W. Dewhirst and R. D. Wolstencroft, Further observations of the zodiacal light from a high altitude station and investigation of the interplanetary	365
plasma, III. Photoelectric measurements of polarization	419
Bondi, H. and R. A. Lyttleton, The formation of spiral arms of galaxies Bonnor, W. B., On Olbers' paradox	207
Bonnor, W. B., On Olbers' paradox Buscombe, W. and C. R. Dickens, Luminosity classification of G-type stars	33 499
manufaction of the state of the	777
Celestial mechanics and stellar dynamics: Local stability in rapidly rotating collisionless stellar systems, P. A. Sweet and	
D. D. McGregor	195
Davies, L. B., J. Ring and M. J. Selby, Electron densities in gaseous nebulae Davies, M. and W. Davidson, Interpretation of the Shakeshaft-Scheuer data in terms of the	399
4-parameter evolutionary models	363
4-parameter evolutionary models	363
derived from the observations	133
Davies, R. D., The galactic spur	173
	123
Dewhirst, D. W., D. W. Beggs, D. E. Blackwell and R. D. Wolstencroft, Further observations of the zodiacal light from a high altitude station and investigation of the interplanetary	123
plasma, III. Photoelectric measurements of polarization	419 499
Extragalactic systems:	
Radio sources and rich clusters of galaxies, J. D. H. Pilkington	103
Wolf-Rayet stars in the Large Magellanic Cloud, B. E. Westerlund and L. F. Smith	311
— Electron densities and masses of diffuse nebulae in the Magellanic Clouds, M. W. Feast	327
$\it Feast, M.W.$, Electron densities and masses of diffuse nebulae in the Magellanic Clouds	327
Galactic nebulae: Electron densities in gaseous nebulae, L. B. Davies, J. Ring and M. J. Selby	399
Galactic structure:	
	173
— The formation of spiral arms of galaxies, R. A. Lyttleton and H. Bondi	207
— Photoelectric distances of 461 Northern OB-stars and galactic structure from Hγ-	
luminosities	261
Goyal, A. N., General investigation on the counts of doubles in the Oxford Astrographic Catalogues +25° to +33°, Hyderabad Astrographic Catalogues +36° to +39° and	
-17° to -23° with an angular separation less than 15"	493
Griffin, R. F., The spectrum of Arcturus in the far infrared	187
Imrie, K. S., J. E. B. Ponsonby and J. H. Thomson, Radar observations of Venus and a determination of the astronomical unit, 1962	1
Jennison, R. C. and R. D. Davies, A search for intergalactic neutral hydrogen, I. The observa-	
tions	123
John, T.L., The free-free transitions of the negative hydrogen ion in the exchange approximation	93
Klotz, A. H., A note on Giao's theory of cosmological models	255
Kristenson, H., Solar limb emission between the Balmer and Paschen limits	113
Total and A services of the formation of the services	

INDEX

Astrophysics:	PAGE
The free-free transitions of the negative hydrogen ion in the exchange approximation,	
T. L. John	93
McDowell	287 431
Beer, A., Photoelectric distances of 461 Northern OB-stars and galactic structure from Hy-	
luminosities Beggs, D. W., D. E. Blackwell, D. W. Dewhirst and R. D. Wolstencroft, Further observations of the zodiacal light from a high altitude station and investigation of the interplanetary	261
plasma, III. Photoelectric measurements of polarization	419
and central depths Blackwell, D. E., D. W. Beggs, D. W. Dewhirst and R. D. Wolstencroft, Further observations of the zodiacal light from a high altitude station and investigation of the interplanetary	365
plasma, III. Photoelectric measurements of polarization	419
Bondi, H. and R. A. Lyttleton, The formation of spiral arms of galaxies Bonnor, W. B., On Olbers' paradox	207
Bonnor, W. B., On Olbers' paradox Buscombe, W. and C. R. Dickens, Luminosity classification of G-type stars	33 499
The state of the s	777
Celestial mechanics and stellar dynamics: Local stability in rapidly rotating collisionless stellar systems, P. A. Sweet and	
D. D. McGregor	195
Davies, L. B., J. Ring and M. J. Selby, Electron densities in gaseous nebulae Davies, M. and W. Davidson, Interpretation of the Shakeshaft-Scheuer data in terms of the	399
4-parameter evolutionary models	363
4-parameter evolutionary models	363
derived from the observations	133
Davies, R. D., The galactic spur	173
	123
Dewhirst, D. W., D. W. Beggs, D. E. Blackwell and R. D. Wolstencroft, Further observations of the zodiacal light from a high altitude station and investigation of the interplanetary	123
plasma, III. Photoelectric measurements of polarization	419 499
Extragalactic systems:	
Radio sources and rich clusters of galaxies, J. D. H. Pilkington	103
Wolf-Rayet stars in the Large Magellanic Cloud, B. E. Westerlund and L. F. Smith	311
— Electron densities and masses of diffuse nebulae in the Magellanic Clouds, M. W. Feast	327
$\it Feast, M.W.$, Electron densities and masses of diffuse nebulae in the Magellanic Clouds	327
Galactic nebulae: Electron densities in gaseous nebulae, L. B. Davies, J. Ring and M. J. Selby	399
Galactic structure:	
	173
— The formation of spiral arms of galaxies, R. A. Lyttleton and H. Bondi	207
— Photoelectric distances of 461 Northern OB-stars and galactic structure from Hγ-	
luminosities	261
Goyal, A. N., General investigation on the counts of doubles in the Oxford Astrographic Catalogues +25° to +33°, Hyderabad Astrographic Catalogues +36° to +39° and	
-17° to -23° with an angular separation less than 15"	493
Griffin, R. F., The spectrum of Arcturus in the far infrared	187
Imrie, K. S., J. E. B. Ponsonby and J. H. Thomson, Radar observations of Venus and a determination of the astronomical unit, 1962	1
Jennison, R. C. and R. D. Davies, A search for intergalactic neutral hydrogen, I. The observa-	
tions	123
John, T.L., The free-free transitions of the negative hydrogen ion in the exchange approximation	93
Klotz, A. H., A note on Giao's theory of cosmological models	255
Kristenson, H., Solar limb emission between the Balmer and Paschen limits	113
Total and A services of the formation of the services	

Index	(iii
-------	------

			PAGE
Margerum, E. A. and V. Vand, Light scattering by small graphite spheres			431
McCrea, W. H., Extended main-sequence of some stellar clusters			147
McCrea, W. H., Continual creation			335
McDowell, M. R. C. and V. P. Myerscough, Continuous absorption by the carbon is	negative	ion	287
McGregor, D. D. and P. A. Sweet, Local stability in rapidly rotating collisionless ste	llar syste	ems	195
Myerscough, V. P. and M. R. C. McDowell, Continuous absorption by the carbon is	negative	ion	287
Peat, D. W., Ha Photometry of late-type stars, I. F, G and K-type stars north of the	equator	r	435
Peat, D. W., Photometry of the orange-red Ca I triplet in late-type stars			475
Peek, B. M., Correlation between the varying rotation periods of Jupiter's Great Re	ed Spot	and	7/3
North Equatorial Current			509
Petrie, R. M., The solar motion determined from some nearby B stars			245
Piddington, J. H., The magnetic fields and radio emission of galaxies			345
Pilkington, J. D. H., Radio sources and rich clusters of galaxies			103
Planets:			
Correlation between the varying rotation periods of Jupiter's Great Red Spot	and No	orth	
Equatorial Current, B. M. Peek	***	***	509
Ponsonby, J. E. B., J. H. Thomson and K. S. Imrie, Radar observations of Venus a	nd a det	ter-	
mination of the astronomical unit, 1962			I
Pottasch, S. R., On the chemical composition of the solar corona	***		73
Radio astronomy:			
- A survey of the linearly polarized component of galactic radio emission at	408 M	c/s,	
R. Wielebinski and J. R. Shakeshaft			19
— On a possible class of galactic radio sources, D. W. Sciama			49
A search for intergalactic neutral hydrogen, I. The observations, R. D.	Davies	and	
R. C. Jennison			123
The magnetic fields and radio emission of galaxies, J. H. Piddington			345
Refsdal, S., The gravitational lens effect			295
Refsdal, S., On the possibility of determining Hubble's parameter and the masses	of galas	xies	
from the gravitational lens effect			307
Ring, J., L. B. Davies and M. J. Selby, Electron densities in gaseous nebulae			399
Rodgers, A. W. and R. A. Bell, The atmosphere of \(\beta \) Doradus, II. Line profiles,	half-wid	iths	
and central depths			365
Roxburgh, I. W., On stellar rotation, I. The rotation of upper main-sequence stars			157
Roxburgh, I. W., On stellar rotation, II. The rotation of lower main-sequence stars	***		237
Scheuer, P. A. G. and J. R. Shakeshaft, Comment on "Interpretation of the countries of the			
sources in terms of a 4-parameter family of evolutionary universes" by W. Da	ividson	and	
M. Davies			361
Sciama, D. W., On a possible class of galactic radio sources		***	49
Selby, M. J., L. B. Davies and J. Ring, Electron densities in gaseous nebulae			399
Shakeshaft, J. R. and P. A. G. Scheuer, Comment on "Interpretation of the cour			
sources in terms of a 4-parameter family of evolutionary universes" by W	. David	son	
and M. Davies	of mala		361
Shakeshaft, J. R. and R. Wiebelinski, A survey of the linearly polarized component radio emission at 408 Mc/s	or gara	Clic	
radio emission at 408 Mc/s Smith, L. F. and B. E. Westerlund, Wolf-Rayet stars in the Large Megallanic Cloud	•••	•••	19
Smith, L. F. and B. B. Westerman, Wolf-Rayet states in the Large Meganame Cloud	***		311
Solar system:			
- Radar observations of Venus and a determination of the astronomical	unit 10	62	
J. E. B. Ponsonby, J. B. Thomson and K. S. Imrie		,02,	1
- Extension of the Betti-Ritter formula to the gravitational energy of t		ets.	•
S. Yabushita	no pian	,	249
21 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -			-49
Stars, binary:			
- General investigation on the counts of doubles in the Oxford Astrographic	Catalog	ues	
+25° to +33°, Hyderabad Astrographic Catalogues +36° to +39° and -1	7° to -	23	
with an angular separation less than 15", A. N. Goyal		***	493
Stars, groups and clusters of:			
Possible spread in the ages of stars in a stellar cluster, I. P. Williams			389
Stars, magnitudes of:			
— Luminosity classification of G-type stars, W. Buscombe and C. R. Dickens	***	•••	499
Stars, motions of:			
— The solar motion determined from some nearby B stars, R. M. Petrie	* * *		245

						PAGE
Stars, spectra of:						-
— The spectrum of Arcturus in the far infrared, R. F. C			•••			187
— The atmosphere of β Doradus, II. Line profile	es, half-wid	ths and	centra	al dept	ths,	
R. A. Bell and A. W. Rodgers				•••	***	365
— Hα Photometry of late-type stars, I. F, G and			of the	e equa	tor,	
		· · ·				435
— Photometry of the orange-red Ca 1 triplet in late-type	be stars, D. V	. Peat				475
St						
Stars, structure and evolution of:	H McCman					
Extended main-sequence of some stellar clusters, W	. H. McCrea	'i w	Db			147
 On stellar rotation, I. The rotation of upper main-se On stellar rotation, II. The rotation of lower main-se 	squence stars	, I. W.	Dowboo	gri		157
On stellar rotation, 11. The rotation of lower main-se	equence star	s, 1. W.	Roxour	gn	***	237
Sun:						
Departures from local thermodynamic equilibrium i	n the solar a	tmosnh	ere R	Warner		63
— On the chemical composition of the solar corona, S.					•••	73
- Solar limb emission between the Balmer and Pasche						113
— Magnetic flux tubes and convection in the Sun, N. C.		er istens			***	225
Magnetic nux tubes and convection in the buil, 14. C	J. 77 C433		***		***	3
Sweet, P. A. and D. D. McGregor, Local stability in rapidly	v rotating co	llisionl	ess stell	ar syste	ems	195
Dutter, 2 . 11. una D. D. 11. Urigor, 11. una J. 11. una prai	, rouning or			 0,000		-93
Thomson, J. H., J. E. B. Ponsonby and K. S. Imrie, Radar of	bservations o	f Venus	and a	letermi	ina-	
tion of the astronomical unit, 1962						1
Universe—Cosmology:						
- On Olbers' paradox, W. B. Bonnor			***			33
- A search for intergalactic neutral hydrogen, II. Data	a of cosmolo	gical sig	mifican	ce deri	ved	00
from the observations, R. D. Davies						133
- A note on Giao's theory of cosmological models, A.						255
						295
 On the possibility of determining Hubble's paramet 	er and the m	asses of	galaxie	s from	the	-
gravitational lens effect, S. Refsdal						307
Continual creation, W. H. McCrea		***				335
Comment on "Interpretation of the counts of rad						
family of evolutionary universes" by W. Davidso	on and M. I	Davies,	P. A. C	3. Scho	euer	
and J. R. Shakeshaft				***		361
- Interpretation of the Shakeshaft-Scheuer data in to		4-paran	neter ev	olution	nary	
models, W. Davidson and M. Davies						363
Vand, V. and E. A. Margerum, Light scattering by small g	raphite sphe	res		***		431
Warner, B., Departures from local thermodynamic equilib					***	63
Wielebinski, R. and J. R. Shakeshaft, A survey of the line						
			• • •	***		19
Weiss, N. O., Magnetic flux tubes and convection in the S	un	11	1 1	***	***	225
Westerlund, B. E. and L. F. Smith, Wolf-Rayet stars in the	e large Mage				***	311
Williams, I. P., Possible spread in the ages of stars in a stel		E				389
Wolstencroft, R. D., D. W. Beggs, D. E. Blackwell and D.						
the zodiacal light from a high altitude station and plasma, III. Photoelectric measurements of polariza				piane	tary	470
piasma, 111. Photoelectric measurements of polariza	шоп	***	•••	***	***	419
Yabushita, S., Extension of the Betti-Ritter formula to th	e gravitation	al ener	ry of the	nlane	to	249
a donomia, o., Datension of the Detti-Mittel formula to th	e gravitation	mi ciici)	y or the	Plane		249
Zodiacal light:						
— Further observations of the zodiacal light from a h	igh altitude	etation	and inv	estigeti	ion	
of the interplanetary plasma, III. Photoelect	ric measur	ements	of n	darizat	ion	
D. W. Beggs, D. E. Blackwell, D. W. Dewhirst and R			or be		,	419
The state of the s	0000001		***			7-7

